

# ABSTRACT OF THE DISCLOSURE

Multi-layer and cascade capacitors for use in high frequency applications and other environments are disclosed. The subject capacitor may comprise multiple capacitor components or aspects thereof in an integrated package. Such components may include, for example, thin film BGA components, interdigitated capacitor (IDC) configurations, double-layer electrochemical capacitors, surface mount tantalum products, multilayer capacitors, single layer capacitors, and others. Exemplary embodiments of the present subject matter preferably encompass at least certain aspects of thin film BGA techniques and/or IDC-style configurations. Features for attachment and interconnection are provided that facilitate low ESL while maintaining a given capacitance value. Additional advantages include low ESR and decoupling performance over a broad band of operational frequencies. More particularly, the presently disclosed technology provides for exemplary capacitors that may function over a frequency range from kilohertz up to several gigahertz, and that may also be characterized by a wide range of capacitance values. An additionally disclosed feature of the present subject matter is to incorporate dielectric layers of varied thicknesses to broaden the resonancy curve associated with a particular configuration.